Strategies for Reducing Bedtime Procrastination

Joel Anderson
The Team

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• Bart Kamphorst, PhD Researcher, Ethics Institute
• Sanne Nauts, Post-Doc, Self-Regulation Lab
• Floor Kroese, (former Post-Doc; now assistant prof, Health Psychology)
• Saskia van Dantzig, Philips Research

• Cooperation from:
• Prof. Marcus Düwell, Philosophy Department; Director, Ethics Institute
• Dr. Marieke Adriaanse Psychology & Health; Self-Regulation Lab
• Dr. Catherine Evers Psychology & Health; Self-Regulation Lab
• Dr. Annemarie Kalis, Philosophy
What is the problem for which e-coaching is an answer?
Who left this mess for me to clean up?
How we usually think about self-control
Inter-Temporal Consistency 1

• *If you don’t like being mistreated by your past self, you’d better be kind to your future self.*
Inter-Temporal Consistency 2

• Finding ways to keep your “worse” self from spoiling things for your “better” self
• Planning & preparation for moments of weakness
Procrastination
(uitstelgedrag)
= “culpably unwarranted delay”
Bedtime Procrastination
Bedtime procrastination

If we fits
We sits
So...£10,000 could be yours if you call in and answer this question: “Why the hell aren’t you in bed?”
Bedtime
Procrastination

JUST ONE MORE LEVEL.
OK, JUST ONE MORE LEVEL...
OK, OK, JUST ONE MORE LEVEL...
OK, OK! OK! JUST ONE MORE LEVEL....
“Bedtime Procrastination: A Behavioral Perspective on Sleep Insufficiency”

(Floor M. Kroese, Sanne Nauts, Bart A. Kamphorst, Joel H. Anderson & Denise T.D. de Ridder, in press)
People sleep less than they used to.

<table>
<thead>
<tr>
<th></th>
<th>1942</th>
<th>2013</th>
</tr>
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<tbody>
<tr>
<td>≤ 5 hrs</td>
<td>3%</td>
<td>14%</td>
</tr>
<tr>
<td>6 hrs</td>
<td>8%</td>
<td>26%</td>
</tr>
<tr>
<td>7 hrs</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>8 hrs</td>
<td>45%</td>
<td>29%</td>
</tr>
<tr>
<td>≥ 9 hrs</td>
<td>14%</td>
<td>5%</td>
</tr>
<tr>
<td>hrs/night</td>
<td>7.9</td>
<td>6.8</td>
</tr>
</tbody>
</table>
### Bedtime Procrastination is prevalent (self-reported days/week)

#### Representative Dutch sample (N = 2431)

<table>
<thead>
<tr>
<th></th>
<th>0-1 days</th>
<th>2-3 days</th>
<th>4-5 days</th>
<th>6-7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>46%</td>
<td>31%</td>
<td>16%</td>
<td>7%</td>
</tr>
</tbody>
</table>

#### American MTurk sample (N = 172)

<table>
<thead>
<tr>
<th></th>
<th>0-1 days</th>
<th>2-3 days</th>
<th>4-5 days</th>
<th>6-7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44%</td>
<td>36%</td>
<td>17%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Kroese et al., 2014; *JHP*; Nauts et al., in prep.
Costs of bedtime procrastination
Distinctive features of bedtime procrastination

• Need for autonomy and “slack”
• Sleep deprivation not perceived as an urgent public health issue
• It’s not the task of going to bed that’s aversive.
Interventions & Strategies

- Advising
- Channeling
- Automating
- Prompting
- Scaffolding
Channeling
(Enactment constraints)
“It’s now 11:30 pm.”
Automating, streamlining future actions
Implementation Intentions

Please make an implementation intention

Please decide at what point you will stop playing.

goal: I want to play for 20 minutes.

if a pop-up window appears
then I will quit the game

Imagine it!

Read your plan once more and imagine it

If "Netflix starts a second episode", then I will "turn the TV off & brush my teeth"

SAVE WOOP

A friendly reminder
You said you only wanted to play Chess for 20 minutes, remember?

Keep Playing  Quit Chess Now

woop

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Prompting:

Hue Lights Bedtime Procrastination Study
Hue Lights Bedtime Procrastination Study

Nauts, Kamphorst, Kroese, Anderson, De Ridder et. al (in prep)
Prompting the initiation of the bedtime routine

3 Trials have been run and the data are now being analyzed
“Scaffolding” for self-regulation

• Supports for...
  ‣ Buildings
  ‣ Thinking
  ‣ Willing
Support systems

- Scaffolding
- Cognitive Extensions
- Assistive tools
- e-coaching
- Buttressing
- Prostheses
- Distributed Willpower

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This all requires preparation
But remember this problem?
Second-order procrastination
Second-Order Procrastination

• Second-order procrastination: unwarrantedly delaying doing something about one’s procrastination
  ‣ Term coined by Andreou (2007)
Recall the benefits of specificity in reducing first-order procrastination

- **Automaticity when in a “hot” or depleted state**
- **Diminishing the relative salience of temptations**
- **Keeps us honest about when we are complying**
- **Lowering the initiation threshold**
- **“Cranking widgets” == > self-efficacy**
  - See esp. Parks-Stamm & Gollwitzer (2009)
Second-Order Procrastination Regarding Specification

• Unwarranted delay in working out specific plans and intentions
  = delaying specification
  ‣ Cf. “decisional procrastination” (Ferrari) or “Type 2 procrastination” (Lay 2015)
What explains second-order procrastination?

- **Working hypothesis:** Second-order procrastination (and the associated self-regulation failure) can be explained in part by the tendency to avoid working out the specifics.
  - Specificity is often aversive
  - Specification is often aversive
Ethical issues related to e-coaching for second-order procrastination

• Issues of trust and reliability
• The sense of control
• Automation bias & “complacency” (Kamphorst, in prep)
  › For self
  › For society
  › For those offering devices and services
Take away messages

• Addressing second-order (decisional, planning) procrastination is pivotal for successfully addressing other contexts of procrastination
• Aversion to specificity and specification provides one promising explanatory strategy
• If so, then addressing second-order procrastination requires
  ‣ (A): Interventions that address the aversions (and avoidance)
  ‣ (B): Approaches that avoid triggering the aversion
  ‣ (C): Strategies for off-loading or automating the task of specification.


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Thank you for your attention!

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http://scaffoldingintentions.phil.uu.nl